CLAIMS

What is claimed is:

1. A system for adjusting a polarization dependent loss, the system comprising:

a first optical device having an optical output;

a second optical device optically coupled to said first optical device; and

a polarization controller optically coupled to both said first optical device and said second optical device, said polarization controller adjusts a polarization state of said optical output of said first optical device to reduce a total polarization-dependent loss of said first and said second optical devices.

2. The system of claim 1, wherein said polarization controller comprises at least one fiber optic cable loop.

3. The system of claim 1, wherein said polarization controller comprises at least one fiber optic loop that is contained in a petal.

4. The system of claim 1, wherein said polarization controller comprises at least one petal that contains at least one fiber optic cable loop, and wherein said petal can be rotated about an axis that is parallel to a direction of travel of a light signal passing through said first and said second optical device.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

5. The system of claim 1, further comprising a measuring device for measuring a polarization dependent loss of an output of said second optical device.

6. The system of claim 1, wherein said first optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, and an interleaver.

7. The system of claim 1, wherein said second optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, an optical coupler, and an interleaver.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

8. An apparatus for adjusting a polarization dependent loss, the apparatus comprising:

a first optical device having an optical output;

a second optical device optically coupled to said first optical device; and

a polarization controller optically coupled to both said first optical device and said second optical device, said polarization controller adjusts a polarization state of said optical output of said first optical device to reduce a total polarization-dependent loss of said first and said second optical devices.

9. The apparatus of claim 8, further comprising a measuring device for measuring a polarization dependent loss of an output of said second optical device.

10. The apparatus of claim 8, wherein said first optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, and an interleaver.

11. The apparatus of claim 8, wherein said second optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, an optical coupler, and an interleaver.

12. The apparatus of claim 8, wherein said polarization controller comprises at least one fiber optic loop that is contained in a petal.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

13. An apparatus for adjusting a polarization dependent loss, the apparatus comprising:

a first optical device having an optical output;

a second optical device optically coupled to said first optical device; and

a polarization controller comprising at least one fiber optic cable loop, said polarization controller being optically coupled to both said first optical device and said second optical device, wherein said polarization controller adjusts a polarization state of said optical output of said first optical device to reduce a total polarization-dependent loss of said first and said second optical devices.

14. The apparatus of claim 13, wherein said at least one fiber optic loop is contained in a petal.

15. The apparatus of claim 13, wherein each of said at least one fiber optic cable loops is contained in a petal, and wherein said petals can be rotated about an axis that is parallel to a direction of travel of a light signal passing through said first and said second optical device to adjust said polarization dependent loss.

16. The apparatus of claim 13, further comprising a measuring device for measuring a polarization dependent loss of an output of said second optical device.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

17. The apparatus of claim 13, wherein said first optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, and an interleaver.

18. The apparatus of claim 13, wherein said second optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, an optical coupler, and an interleaver.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

19. A method of reducing the polarization dependent loss of cascaded optical devices comprising:

cascading a first optical device and a second optical device;

incurring a maximum insertion loss for a light signal passing through said first optical device; and

adjusting a polarization state of an output of said first optical device to incur a minimum insertion loss for said light signal passing through said second optical device.

20. The method of claim 19, wherein said step of adjusting said polarization state of said output of said first optical device includes using a polarization controller to perform said adjusting step.

21. The method of claim 20, wherein said polarization controller comprises at least one series of fiber optic cable loops.

22. The method of claim 20, wherein said polarization controller comprises three series of fiber optic loops.

23. The method of claim 22, wherein each of said series of fiber optic loops is contained in a petal.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

24. The method of claim 23, wherein said petals can be rotated about an axis that is parallel to a direction of travel of a light signal passing through said first and said second optical device.

25. The method of claim 19, wherein a measuring device is used to measure a polarization dependent loss from said second device and wherein said measurement is used to perform said adjusting step.

26. The method of claim 19, wherein said first optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, and an interleaver.

27. The method of claim 19, wherein said second optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, an optical coupler, and an interleaver.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

28. A method of reducing the polarization dependent loss of cascaded optical devices comprising:

cascading a first optical device and a second optical device;

incurring a minimum insertion loss for a light signal passing through said first optical device; and

adjusting a polarization state of an output of said first optical device to incur a maximum insertion loss for said light signal passing through said second optical device.

29. The method of claim 28, wherein said step of adjusting said polarization state of said output of said first optical device includes using a polarization controller to perform said adjusting step.

30. The method of claim 29, wherein said polarization controller comprises at least one series of fiber optic cable loops.

31. The method of claim 29, wherein said polarization controller comprises three series of fiber optic loops.

32. The method of claim 31, wherein each of said series of fiber optic loops is contained in a petal.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111

33. The method of claim 32, wherein said petals can be rotated about an axis that is parallel to a direction of travel of a light signal passing through said first and said second optical device.

34. The method of claim 28, wherein a measuring device is used to measure a polarization dependent loss from said second device and wherein said measurement is used to perform said adjusting step.

35. The method of claim 28, wherein said first optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, and an interleaver.

36. The method of claim 28, wherein said second optical device is any one of a laser transmitter, a polarization beam splitter, an optical crystal, a waveguide, a circulator, an optical coupler, and an interleaver.

WORKMAN NYDEGGER
A PROFESSIONAL CORPORATION
ATTORNEYS AT LAW
1000 EAGLE GATE TOWER
60 EAST SOUTH TEMPLE
SALT LAKE CITY, UTAH 84111